

“BUFFALO”

Steam Pump Company

BUFFALO, N. Y.

BULLETIN No. 261

Acid Pumps

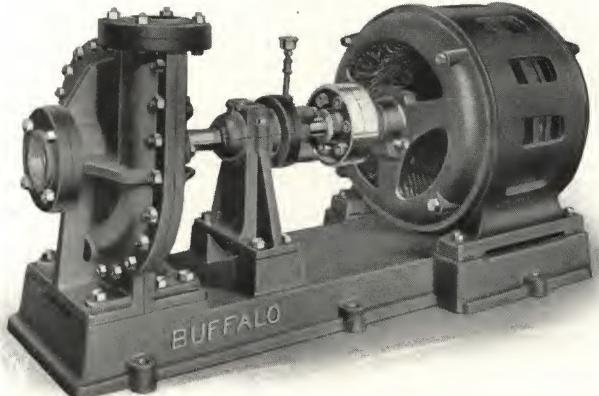


Fig. 969

**3-inch Buffalo Acid Pump Direct Connected to
Electric Motor**



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BULLETIN No. 261



Buffalo Acid Pumps

Furnished with Single or Tight and
Loose Pulleys

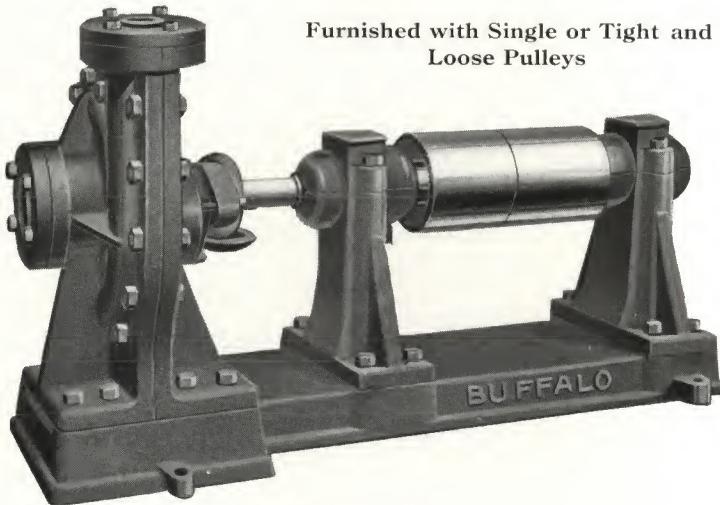


Fig. 965

Single Belted Pump with Tight and Loose Pulleys

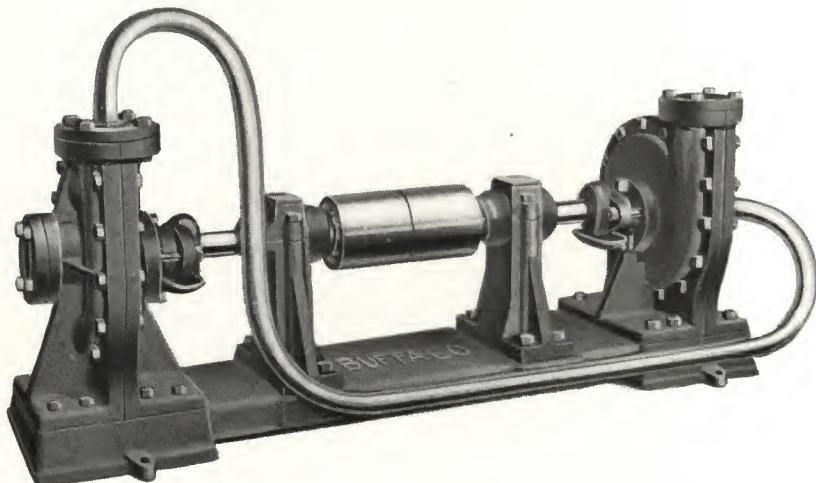


Fig. 966

Twin Belted Hard Lead Pump

Connecting pipe for compounding the two pump ends (as shown) furnished at extra price.



B U F F A L O P U M P S

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Buffalo Acid Pumps

We manufacture pumps of this style in sizes $1\frac{1}{2}$ ", 2" and 3" suction and discharge. These are being used by many prominent concerns for handling chemical liquors and acids, with the very greatest success.

We are also prepared, and well equipped to design and build special pumps to suit customer's specifications as to type, material and method of drive, and correspondence is invited with those having special problems to solve or who want their own designs built to order.

The illustrations published show our usual standard pumps, which may be furnished either belted or arranged for direct connection to electric motor. The bearings are of the ring-oiling type fitted with removable, split, bronze liners, making them the very best which can be built. All details of the design fulfill the requirements of hard, continuous service, and customers are assured a pump second to none on the market.

Iron pumps are generally used for strong sulphuric acid above 65 Baumé, as well as for lye and ammonia solutions, chloride of lime, etc.

Lead pumps are used for handling weak sulphuric acids up to 45 or 50 Baumé, or, if the acid is cold, up to 65 Baumé. If sulphuric acid is both hot and cold ranging from 45 to 50 Baumé, a lead pump is recommended for the best all-round service. The material is best also for handling alum liquors, bi-sulphite liquors, sulphates of aluminum, copper and nickel neutral solutions as well as phosphoric acid.

Our lead pumps are built of about 92 per cent. commercially pure lead, alloyed with about 8 per cent. antimony to give the requisite stiffness to the various parts. For phosphoric acid, some of our customers prefer lead pump shell and impeller with bronze shaft sleeve and gland.

Bronze pumps are used for acetic and tartaric acids, sulphate of iron solutions, carbonates of sodium and copper, and cyanide of copper.

These pumps can also be built of block tin, aluminum or other special metals, if required for special service, at prices which will be quoted on request with full specifications as to metal.

The shaft stuffing box packing which is generally used for corrosive acids is asbestos wicking saturated with kerosene and graphite, although for some conditions customers use pure rubber rings.

Care must be used not to tighten stuffing box too tightly. It should be permitted to leak slightly, and for this condition a special gland arrangement is used provided with drip box underneath.



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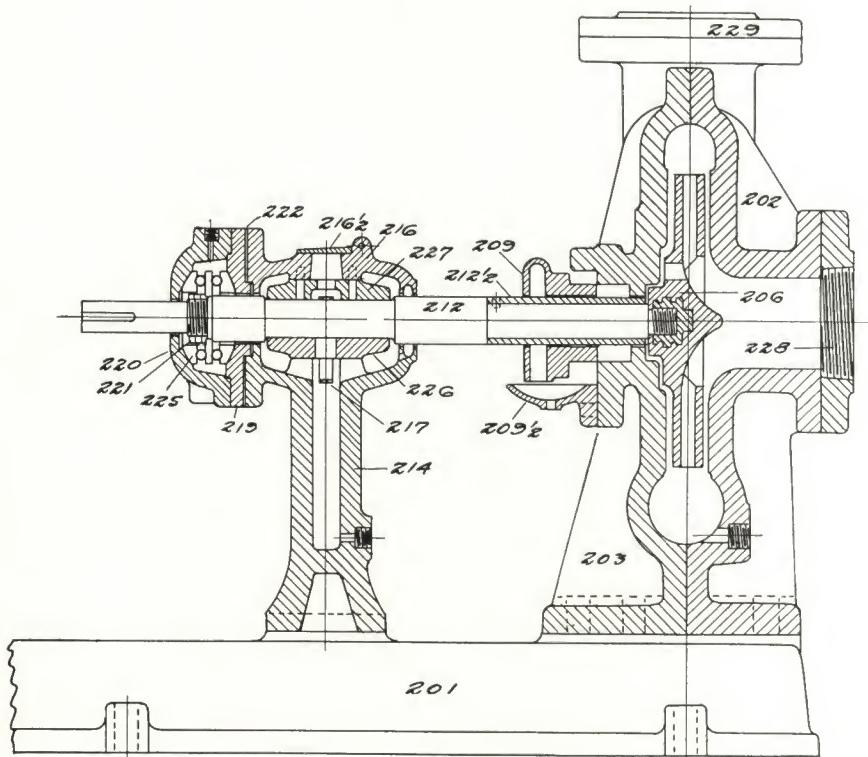


Fig. 973

All pumps have same size suction and discharge openings.

In ordering spare parts, give part number, size and stop number of pump appearing on brass nameplate attached to same, and state material (cast iron, lead, copper or bronze) which you wish parts made of.

Part No.	Name of Part.	Part No.	Name of Part.
201	Sub-Base.	217	Oil Ring.
202	Suction Half Shell.	219	Thrust Support Plate.
203	Stuff. Box Half Shell.	220	Thrust Cover.
206	Impeller.	221	Shaft Thrust Nut.
209	Gland.	222	Sheet Iron Shims.
209½	Drip Box.	225	Complete Ball Bearing.
212	Shaft.	226	Lower Half Bearing Shell.
212½	Shaft Sleeve.	227	Upper Half Bearing Shell.
214	Bearing Stand (with flange).	228	Suction Companion Flange.
216	Bearing Cap.	229	Discharge Companion Flange.
216½	Oil Cover.		



BUFFALO PUMPS

BULLETIN No. 261



Buffalo Acid Pumps

Size One and one-half inch

(Capacity: 55 Galls. Per Minute)

STYLE OUTFIT	With Single Pulley	With T. & L. Pulleys	With Motor Base and Flanged Coupling	Approx. Weight lbs.
1½" Suction and 1½" Discharge				
Single Iron Pump.....	<i>Mpnaf</i>	<i>Mptim</i>	<i>Mpvor</i>	350
Twin Iron Pump.....	<i>Mpneg</i>	<i>Mpton</i>	<i>Mpvur</i>	750
Two Pumps on one base, 1 pulley or motor in center {				
Single Hard Lead Pump.....	<i>Mpnih</i>	<i>Mptup</i>	<i>Mpvys</i>	400
Twin Hard Lead Pump.....	<i>Mpmoj</i>	<i>Mptyr</i>	<i>Mpwam</i>	850
Single Copper Pump.....	<i>Mpnuk</i>	<i>Mpvad</i>	<i>Mpwen</i>	375
Twin Copper Pump.....	<i>Mpnul</i>	<i>Mpvem</i>	<i>Mpwip</i>	800
Single Bronze Pump.....	<i>Mptak</i>	<i>Mpvin</i>	<i>Mpwor</i>	375
Twin Bronze Pump.....	<i>Mptel</i>	<i>Mprop</i>	<i>Mpwus</i>	800
Feet Total Working Head.....	10	20	30	40
Speed Single Pulley Pump, 55 Galls.....	780	1050	1280	1470
H. P. Required, 60° Baumé.....	1.1	2.1	3.1	4.0
				50
				60
				1650
				1800
				5.0
				6.0

Size Two-inch

(Capacity: 100 Galls. Per Minute)

STYLE OUTFIT	With Single Pulley	With T. & L. Pulley	With Motor Base and Flanged Coupling	Approx. Weight lbs.
2" Suction and 2" Discharge				
Single Iron Pump.....	<i>Mqach</i>	<i>Mqbfo</i>	<i>Mqbye</i>	400
Twin Iron Pump.....	<i>Mqads</i>	<i>Mqbih</i>	<i>Mqdoah</i>	850
Two Pumps on one base, 1 pulley or motor in center {				
Single Hard Lead Pump.....	<i>Mqalb</i>	<i>Mqbju</i>	<i>Mqdbu</i>	450
Twin Hard Lead Pump.....	<i>Mgang</i>	<i>Mqbmj</i>	<i>Mqdaj</i>	950
Single Copper Pump.....	<i>Mqard</i>	<i>Mqboj</i>	<i>Mqdfy</i>	425
Twin Copper Pump.....	<i>Mgast</i>	<i>Mqbsu</i>	<i>Mqdik</i>	925
Single Bronze Pump.....	<i>Mqbaf</i>	<i>Mqbusk</i>	<i>Mqdka</i>	425
Twin Bronze Pump.....	<i>Mqbeg</i>	<i>Mqdue</i>		925
Feet Total Working Head.....	10	20	30	40
Speed Single Pulley Pump, 100 Galls.....	850	1125	1350	1550
H. P. Required, 60° Baume.....	1.9	3.3	4.6	5.8
				50
				60
				1730
				1875
				7.2
				8.8

Size Three-inch

(Capacity: 225 Galls. Per Minute)

STYLE OUTFIT	With Single Pulleys	With T. & L. Pulleys	With Motor Base and Flanged Coupling	Approx. Weight lbs.
3" Suction and 3" Discharge				
Single Iron Pump.....	<i>Mqdol</i>	<i>Mqrk</i>	<i>Mqfui</i>	750
Twin Iron Pump.....	<i>Mqdsi</i>	<i>Mqess</i>	<i>Mqfom</i>	1600
Two Pumps on one base, 1 pulley or motor in center {				
Single Hard Lead Pump.....	<i>Mqdum</i>	<i>Mqfaj</i>	<i>Mqfso</i>	850
Twin Hard Lead Pump.....	<i>Mqdwo</i>	<i>Mqfbj</i>	<i>Mqfun</i>	1800
Single Copper Pump.....	<i>Mgdyn</i>	<i>Mqfek</i>	<i>Mqfau</i>	800
Twin Copper Pump.....	<i>Mqeft</i>	<i>Mqfga</i>	<i>Mqfxp</i>	1700
Single Bronze Pump.....	<i>Mqelc</i>	<i>Mqfil</i>	<i>Mqfys</i>	800
Twin Bronze Pump.....	<i>Mgend</i>	<i>Mqfske</i>	<i>Mqfzt</i>	1700
Feet Total Working Head.....	10	20	30	40
Speed Single Pulley Pump, 225 Galls....	720	960	1150	1320
H. P. Required, 60° Baumé.....	4.0	6.8	9.0	11.3
				50
				60
				1450
				1570
				1670
				13.2
				15.2
				17.0



B U F F A L O P U M P S
BULLETIN No. 261



Buffalo Spray Nozzles

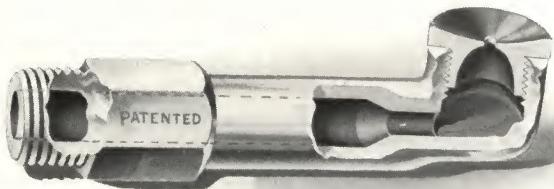


Fig. 1091

Section of Buffalo Spray Nozzle



Fig. 1092

"Buffalo" Spray Nozzle in Operation



B U F F A L O P U M P S

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Buffalo Spray Nozzles

The Buffalo Spray Nozzle gives an exceedingly fine spray with a minimum water pressure. Operating at pressures as low as 15 lbs., the centrifugal action of the nozzle produces an atomizing effect which is further increased with the increase in pressure. The greatest atomizing effect is obtained at a pressure of about 40 lbs. The successful results obtained with these nozzles are due to the fact that the water enters the circular chamber tangentially, receiving a whirling motion, and it is not obstructed in any way until its exit through the opening in the disc. As it approaches this opening, an increase of velocity is caused by the change in the shape of the passage until it bursts into an atomized spray, which does not depend for its finesess on the small size of the orifice. For this reason large water passages are used throughout, with consequent freedom from clogging.

The nozzle is made in only two parts, as shown in the cut. The cap can be replaced if the action of the liquid is such as to corrode the metal and destroy the effectiveness of the spray.

While regularly furnished in brass, we make these nozzles in large or small quantities of any material desired. Our Monel metal nozzles have replaced others in producer gas power plants, blast furnaces and chemical plants.

Capacities given in following table are actual test results:

List Prices Each	Cast Iron	Brass	Dia. of pipe Connection	Dia. of Open- ing in Cap	PRESSURE IN LBS. PER SQUARE INCH										
					10	20	25	30	40	50	60	70	80		
\$ 1.50			1/4"	1/32"	.27	.39	.44	.48	.55	.62	.68	.73	.79	.83	.89
2.00			1/4"	1/16"	1	1.5	1.7	1.8	2.1	2.4	2.6	2.8	2.9	3.2	3.4
2.00			1/4"	3/32"	2.3	3.3	3.7	4	4.6	5.2	5.7	6.1	6.5	6.9	7.3
3.00	\$ 2.50		3/8"	1/8"	4.6	6.5	7.3	8	9.2	10	11	12	13	14	15
4.00	3.00		3/8"	5/32"	10	15	17	18	21	23	26	28	29	31	33
4.80	4.00		1/2"	1/4"	18	26	29	32	37	41	45	49	52	56	58
8.00	5.00		3/4"	3/8"	51	72	81	88	102	114	125	135	144	153	162
12.00	6.00		1"	1/2"	91	128	144	157	181	202	222	240	257	272	
16.00	7.00		1 1/4"	5/8"	127	182	204	226	257	287	310				
20.00	9.00		1 1/2"	3/4"	186	263	295	332	370	415					
24.00	11.00		2"	7/8"	252	356	400	435	501						
28.00	15.00		2"	1"	330	465	522	570	657						
32.00	20.00		2 1/2"	1 1/4"	515	728	815	890							

Brass	Cast Iron	CAPACITIES IN LBS. WEIGHT OF WATER DISCHARGED PER MIN.												
		10	20	25	30	40	50	60	70	80	90	100		
\$ 1.50		1/4"	1/32"	.27	.39	.44	.48	.55	.62	.68	.73	.79	.83	.89
2.00		1/4"	1/16"	1	1.5	1.7	1.8	2.1	2.4	2.6	2.8	2.9	3.2	3.4
2.00		1/4"	3/32"	2.3	3.3	3.7	4	4.6	5.2	5.7	6.1	6.5	6.9	7.3
3.00	\$ 2.50	3/8"	1/8"	4.6	6.5	7.3	8	9.2	10	11	12	13	14	15
4.00	3.00	3/8"	5/32"	10	15	17	18	21	23	26	28	29	31	33
4.80	4.00	1/2"	1/4"	18	26	29	32	37	41	45	49	52	56	58
8.00	5.00	3/4"	3/8"	51	72	81	88	102	114	125	135	144	153	162
12.00	6.00	1"	1/2"	91	128	144	157	181	202	222	240	257	272	
16.00	7.00	1 1/4"	5/8"	127	182	204	226	257	287	310				
20.00	9.00	1 1/2"	3/4"	186	263	295	332	370	415					
24.00	11.00	2"	7/8"	252	356	400	435	501						
28.00	15.00	2"	1"	330	465	522	570	657						
32.00	20.00	2 1/2"	1 1/4"	515	728	815	890							

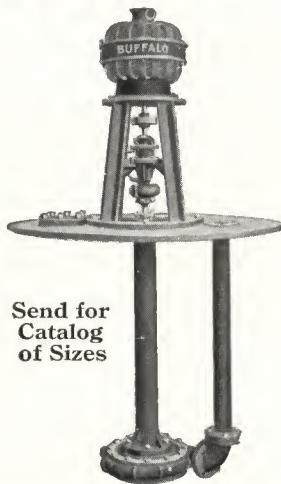


BUFFALO PUMPS

BULLETIN No. 261



Buffalo Sump Pump

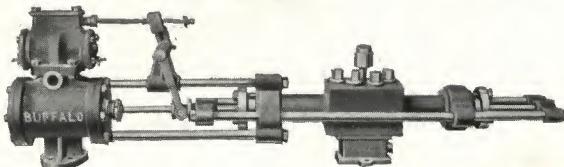


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